



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,270	03/31/2004	Nathan E. Marushak	34455/33736.P18317	7484

7590

07/18/2006

Grossman, Tucker, Perreault & Pfleger, PLLC
c/o PortfolioIP
P.O. Box 52050
Minneapolis, MN 55402

EXAMINER

KING, JUSTIN

ART UNIT	PAPER NUMBER
----------	--------------

2111

DATE MAILED: 07/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/815,270	MARUSHAK ET AL.	
	Examiner	Art Unit	
	Justin I. King	2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of McNeill, Jr. et al. (U.S. Patent No. 5,499,378) and the standard disclosed SCSI command.

Referring to claim 1: McNeill discloses a SCSI emulation device/target system, which is equivalent to the claimed an expander device, capable of communicating with one or more initiator engines and one or more target storage devices using a plurality of communication protocols (column 3, 3rd paragraph).

McNeill discloses emulating the standard SCSI command (column 3, lines 23-27), but McNeil does not explicitly disclose persistent reservation and persistent affiliation. Since the

Art Unit: 2111

persistent reservation is a standard SCSI command as disclosed in the Specification, one with ordinary skill in the computer art will also implement McNeil's expander device to emulate the persistent reservation. And since McNeill's emulation device also connects the non-SCSI devices onto the SCSI network and translates the SCSI commands accordingly, McNeill's emulated SCSI commands on the non-SCSI devices are equivalent to the claimed persistent affiliation.

McNeill discloses connecting to non-SCSI device (column 3, line 18), and McNeill disclose the device as a serial magnetic disk (figure 2), which is equivalent to the claimed SATA storage.

Hence, it would have been obvious to one having ordinary skill in the computer art at the time Applicant made the invention to implement to standard SCSI command emulation onto the McNeill because McNeill teaches one to expand the SCSI connection with a SCSI emulation and McNeill further teaches one to emulate the standard SCSI command in order to establish the connections.

Referring to claim 2: McNeill discloses initializing the target (figure 3, column 5, 1st paragraph), which is the claimed SMP.

Referring to claim 3: Each SCSI control card comes with a driver provided by the vendor for supporting the standard SCSI operations. The SCSI driver provided by the vendor is the vendor specific commands and the parameters associated with the vendor specific commands are the vendor specific data fields. Since both the persistent reservation and persistent affiliation are standard SCSI operations, the SCSI driver provided by the vendor comprises data indicative of at least one of persistent reservation and persistent affiliation.

Referring to claim 4: McNeill's expanding device's connecting means to the bus for communicating with other device is the physical interface.

Referring to claim 5: Exclusive access, such as write, is one of the standard SCSI I/O operations.

Referring to claim 6: The SCSI standard provides the basic mechanism for the dynamic contention resolution in systems (PERSISTENT RESERVE OUT and PERSISTENT RESERVE IN as disclosed in the SCSI Primary Commands); such basic mechanisms are the claimed determining means for the conflict existence.

Referring to claim 7: McNeill discloses a memory (column 5, line 21).

Referring to claim 8: Since power cycle is one of standard SCSI protocol as disclosed in the Specification, one with ordinary skill in the computer art will also implement McNeil's expander device to accommodate the power cycle.

Referring to claim 9: McNeill discloses a SCSI emulation device/target system, which is equivalent to the claimed an expander device, capable of communicating with one or more initiator engines and one or more target storage devices using a plurality of communication protocols (column 3, 3rd paragraph). The SCSI initiator is the claimed circuit card comprising an integrated circuit capable of communicating in accordance with a plurality of different communication protocols.

McNeill discloses emulating the standard SCSI command (column 3, lines 23-27), but McNeil does not explicitly disclose persistent reservation and persistent affiliation. Since the persistent reservation is a standard SCSI command as disclosed in the Specification, one with ordinary skill in the computer art will also implement McNeil's expander device to emulate the

Art Unit: 2111

persistent reservation. And since McNeill's emulation device also connects the non-SCSI devices onto the SCSI network and translates the SCSI commands accordingly, McNeill's emulated SCSI commands on the non-SCSI devices are equivalent to the claimed persistent affiliation.

McNeill discloses connecting to non-SCSI device (column 3, line 18), and McNeill disclose the device as a serial magnetic disk (figure 2), which is equivalent to the claimed SATA storage.

Hence, it would have been obvious to one having ordinary skill in the computer art at the time Applicant made the invention to implement to standard SCSI command emulation onto the McNeill because McNeill teaches one to expand the SCSI connection with a SCSI emulation and McNeill further teaches one to emulate the standard SCSI command in order to establish the connections.

Referring to claim 10: McNeill discloses initializing the target (figure 3, column 5, 1st paragraph), which is the claimed SMP.

Referring to claim 11: Each SCSI control card comes with a driver provided by the vendor for supporting the standard SCSI operations. The SCSI driver provided by the vendor is the vendor specific commands and the parameters associated with the vendor specific commands are the vendor specific data fields. Since both the persistent reservation and persistent affiliation are standard SCSI operations, the SCSI driver provided by the vendor comprises data indicative of at least one of persistent reservation and persistent affiliation.

Referring to claim 12: McNeill's expanding device's connecting means to the bus for communicating with other device is the physical interface.

Referring to claim 13: Exclusive access, such as write, is one of the standard SCSI I/O operations.

Referring to claim 14: The SCSI standard provides the basic mechanism for the dynamic contention resolution in systems (PERSISTENT RESERVE OUT and PERSISTENT RESERVE IN as disclosed in the SCSI Primary Commands); such basic mechanisms are the claimed determining means for the conflict existence.

Referring to claim 15: McNeill discloses a memory (column 5, line 21).

Referring to claim 16: Since power cycle is one of standard SCSI protocol as disclosed in the Specification, one with ordinary skill in the computer art will also implement McNeil's expander device to accommodate the power cycle.

Referring to claim 17: McNeill discloses a SCSI emulation device/target system, which is equivalent to the claimed an expander device, capable of communicating with one or more initiator engines and one or more target storage devices using a plurality of communication protocols (column 3, 3rd paragraph). McNeill discloses a memory (column 5, line 21) to support emulation, which is the claimed storage medium.

McNeill discloses emulating the standard SCSI command (column 3, lines 23-27), but McNeil does not explicitly disclose persistent reservation and persistent affiliation. Since the persistent reservation is a standard SCSI command as disclosed in the Specification, one with ordinary skill in the computer art will also implement McNeil's expander device to emulate the persistent reservation. And since McNeill's emulation device also connects the non-SCSI devices onto the SCSI network and translates the SCSI commands accordingly, McNeill's

Art Unit: 2111

emulated SCSI commands on the non-SCSI devices are equivalent to the claimed persistent affiliation.

McNeill discloses connecting to non-SCSI device (column 3, line 18), and McNeill disclose the device as a serial magnetic disk (figure 2), which is equivalent to the claimed SATA storage.

Hence, it would have been obvious to one having ordinary skill in the computer art at the time Applicant made the invention to implement to standard SCSI command emulation onto the McNeill because McNeill teaches one to expand the SCSI connection with a SCSI emulation and McNeill further teaches one to emulate the standard SCSI command in order to establish the connections.

Referring to claim 18: McNeill discloses initializing the target (figure 3, column 5, 1st paragraph), which is the claimed SMP.

Referring to claims 19-20: Each SCSI control card comes with a driver provided by the vendor for supporting the standard SCSI operations. The SCSI driver provided by the vendor is the vendor specific commands and the parameters associated with the vendor specific commands are the vendor specific data fields. Since both the persistent reservation and persistent affiliation are standard SCSI operations, the SCSI driver provided by the vendor comprises data indicative of at least one of persistent reservation and persistent affiliation.

Referring to claim 21: The SCSI standard provides the basic mechanism for the dynamic contention resolution in systems (PERSISTENT RESERVE OUT and PERSISTENT RESERVE IN as disclosed in the SCSI Primary Commands); such basic mechanisms are the claimed determining means for the conflict existence.

Referring to claim 22: McNeill discloses a SCSI emulation device/target system, which is equivalent to the claimed an expander device, capable of communicating with one or more initiator engines and one or more target storage devices using a plurality of communication protocols (column 3, 3rd paragraph).

McNeill discloses emulating the standard SCSI command (column 3, lines 23-27), but McNeil does not explicitly disclose persistent reservation and persistent affiliation. Since the persistent reservation is a standard SCSI command as disclosed in the Specification, one with ordinary skill in the computer art will also implement McNeil's expander device to emulate the persistent reservation. And since McNeill's emulation device also connects the non-SCSI devices onto the SCSI network and translates the SCSI commands accordingly, McNeill's emulated SCSI commands on the non-SCSI devices are equivalent to the claimed persistent affiliation.

McNeill discloses connecting to non-SCSI device (column 3, line 18), and McNeill disclose the device as a serial magnetic disk (figure 2), which is equivalent to the claimed SATA storage.

Hence, it would have been obvious to one having ordinary skill in the computer art at the time Applicant made the invention to implement to standard SCSI command emulation onto the McNeill because McNeill teaches one to expand the SCSI connection with a SCSI emulation and McNeill further teaches one to emulate the standard SCSI-command in order to establish the connections.

Referring to claim 23: McNeill discloses initializing the target (figure 3, column 5, 1st paragraph), which is the claimed SMP.

Art Unit: 2111

Referring to claims 24-25: Each SCSI control card comes with a driver provided by the vendor for supporting the standard SCSI operations. The SCSI driver provided by the vendor is the vendor specific commands and the parameters associated with the vendor specific commands are the vendor specific data fields. Since both the persistent reservation and persistent affiliation are standard SCSI operations, the SCSI driver provided by the vendor comprises data indicative of at least one of persistent reservation and persistent affiliation.

Referring to claim 26: The SCSI standard provides the basic mechanism for the dynamic contention resolution in systems (PERSISTENT RESERVE OUT and PERSISTENT RESERVE IN as disclosed in the SCSI Primary Commands); such basic mechanisms are the claimed determining means for the conflict existence.

Referring to claim 27: McNeill discloses an invention connecting SCSI initiator to a non-SCSI device and to a SCSI device on a non-local bus. Although McNeill does not explicitly disclose an embodiment of a second tier of expanding connection as claimed, it will be understood by those skilled in the art that the foregoing and other changes and details may be made therein without departing from the spirit and scope of the invention (column 8, 2nd paragraph). In addition, an Office Notice is taken on the following: a multi-tier bridging structure in connecting a plurality of devices is well known in the computer art.

Response to Arguments

4. In response to Applicant's argument that the prior art does not describe or suggest creating a persistent reservation or a persistent affiliation between one or more target SATA storage devices and one or more initiator engines (Remark, page 12, last paragraph): The SCSI

Art Unit: 2111

protocol discloses the persistent reservation and the persistent affiliation. The McNeill discloses a system connecting a non-SCSI disks with SCSI protocol (abstract). McNeill teaches one to connect/control to non-SCSI storage devices with SCSI emulator. The SATA storage device is a non-SCSI storage device, and the SATA protocol is a well-known protocol for storage device in the computer art. McNeill further states that while the McNeill's invention is shown with reference to particular embodiment, one with ordinary skill in the computer art will understand that the forgoing and other changes and details may be made without departing form the spirit and scope of the invention (column 8, lines 7-11). The particular type of the non-SCSI protocol, such as the SATA in the claimed limitation, is merely a matter of design choice and would have been obvious. The McNeill teaches connecting non-SCSI storage device with the SCSI protocol, which includes the persistent reservation and the persistent affiliation. The particular type of the non-SCSI protocol, such as the SATA, does not define a patentably distinct invention over the McNeill since both the Applicant's invention as a whole and the McNeill are directed to connecting a storage device with SCSI protocol's persistent reservation and the persistent affiliation. The particular type of the non-SCSI protocol is inconsequential for the invention as a whole and presents no new or unexpected results, so long as the persistent reservation and the persistent affiliation are used for the connection. Therefore, to have SATA protocol as claimed would have been a matter of obvious design choice to one of ordinary skill in the computer art.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,748,924 to Llorens et al.: Llorens discloses an adapter to connect a serial device to the SCSI bus.

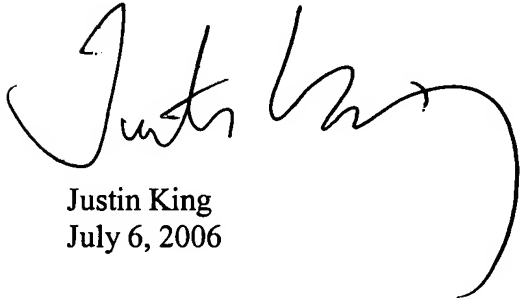
U.S. Patent No. 6,654,902 to Brunelle et al.: Brunelle teaches a method in handling the persistent reservation I/O barriers.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin I. King whose telephone number is 571-272-3628. The examiner can normally be reached on Monday through Friday, 9:00 am to 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 571-272-3632 or on the central telephone number, (571) 272-2100. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

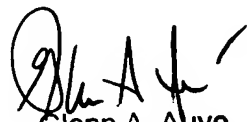
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2111

Lastly, paper copies of cited U.S. patents and U.S. patent application publications will cease to be mailed to applicants with Office actions as of June 2004. Paper copies of foreign patents and non-patent literature will continue to be included with office actions. These cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources. Applicants are referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197 for information on this policy. Requests to restart a period for response due to a missing U.S. patent or patent application publications will not be granted.



Justin King
July 6, 2006



Glenn A. Alve
Primary Patent Examiner
Technology Center 2100